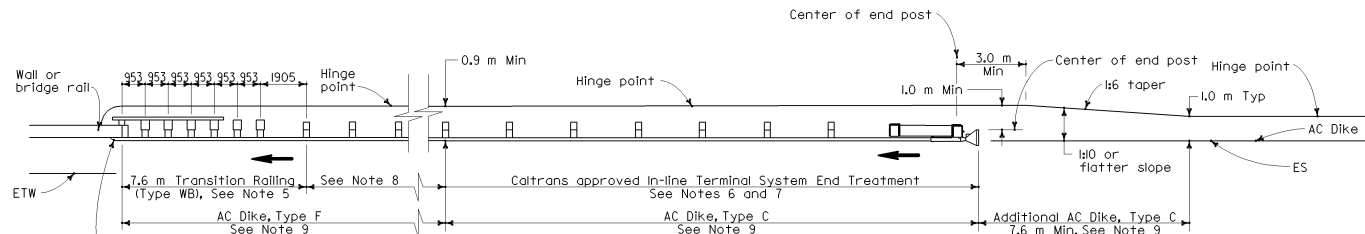


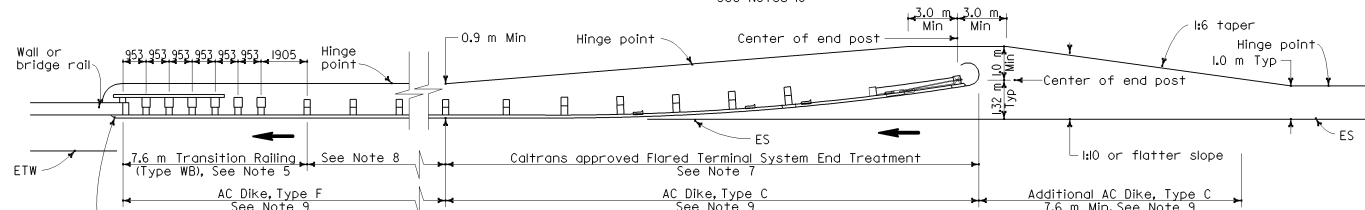


DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET TOTAL NO. SHEETS
Ellis K. Hirst REGISTERED CIVIL ENGINEER July 1, 2004 PLANS APPROVAL DATE The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet. To get to the Caltrans web site, go to: http://www.dot.ca.gov				
Ellis K. Hirst No. C17926 Exp. 6-30-05 CIVIL STATE OF CALIFORNIA				



TYPE 12A LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10



TYPE 12B LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

NOTES

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 1905 mm center to center, except as otherwise noted.
- Except as noted, line posts are 150 mm x 200 mm x 1.83 m wood with 150 mm x 200 mm x 360 mm wood blocks, MW 150 x 14 steel posts, 1.83 m in length, with 150 mm x 200 mm x 360 mm notched wood blocks or plastic blocks may be used for 150 mm x 200 mm x 1.83 wood posts with 150 mm x 200 mm x 360 mm wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by ➡.
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 3.8 m with 1.9 m post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Standard Plan A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 12 meters. See Railing Case 1 in Diagram No. 1 on Standard Plan A77D1.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 12 meters. See Railing Case 2 in Diagram No. 1 on Standard Plan A77D1.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges. See Railing Case 1 in Diagram No. 3 on Standard Plan A77D1.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge. See Railing Case 1 in Diagram No. 4 on Standard Plan A77D1.
- See Standard Plan A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges. See RAILING CASE 4 in Diagrams No. 3 on Standard Plan A77D1.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Standard Plans A77J1 and A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR STRUCTURE APPROACH

NO SCALE

ALL DIMENSIONS ARE IN
MILLIMETERS UNLESS OTHERWISE SHOWN

A77F1